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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,158	10/24/2003	Shankar Pal	MSFT-2851/306821.01	1679
23377 7590 05/31/2007 WOODCOCK WASHBURN LLP CIRA CENTRE, 12TH FLOOR 2929 ARCH STREET PHILADELPHIA, PA 19104-2891			EXAMINER BELL, CORY C	
			ART UNIT 2164	PAPER NUMBER
			MAIL DATE 05/31/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/693,158	PAL ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Cory C. Bell	2164	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on 3/19/2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

  
**SAM RIMELL**  
**PRIMARY EXAMINER**

### DETAILED ACTION

1. Claims 1-17 have been examined.

#### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,721,727, hereafter known as Chau, in view of the applicant admitted prior art[AAPA](Applicants background paras 3-21).

2. **Claim 1** is rejected for the following reasons:

defining another class in managed code that represents an XML data type; defining at least one of the plurality of fields defines of the user defined type, as having the XML data type,(Chau Col 7 lines 8-12 teach having an XML user defined type, Applicants background para 6 teaches that User defined types are created using a class in managed code) and defining at least one other of said plurality of fields as having a different data type(Applicants background discusses fields of data types different the XML see figure 1, also see Chau figure 3); and instantiating the class defining the user defined type to create an object of the user defined type, wherein the object holds XML data in said at least one field and holds data of said different data type in said at least one other field; and persisting the object within the database store(Applicants background paras 18 and 19).

Chau teaches the use of XML User defined types, but is not explicit to the instantiating of objects, however the AAPA is clear that these methods were known in the art(See Mapping above) Thus, it would have been obvious to one of ordinary skill in the art at the time of the

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invention to use that applicant admitted prior art system in conjunction with Chau, as it allows for compliance with a well known database system

3. **Claim 2** is rejected for the following reasons:

The method recited in claim 1, wherein the managed code class that represents the XML data type comprises at least one constructor (*Chau Col 8 lines 36-41 composing a XML document into a relational table is inherently done by a constructor*) and at least one method that returns an object through which the XML data in the field of the persisted instance of the user defined type can be retrieved (*Chau Col 8 lines 36-41 composing an XML document, the returned object, from the relational table*). (AAPA, para 19)

4. **Claim 3** is rejected for the following reasons:

The method recited in claim 1, further comprising adding a method to the managed code class definition of the user defined type to implement behavior on the field of the user defined type that is defined as an instance of the managed code class that represents the XML data type (*Col 8 lines 1-4 shows that the columns can have user defined functions (or behaviors using the broadest reasonable interpretation) associated with the columns*) (Also see AAPA para 19).

5. **Claim 4** is rejected for the following reasons:

The method recited in claim 1, further comprising the step of associating the field of an instance of the user defined type that contains XML data with an XML Schema that defines a content model for the XML data in the field(*Col 12 line 56- Col 13 line 49, teaches an XML Schema (the DAD/DTD) Col 40-49 teaches the documents association with the mapping thus making the dtd associated with the fields*).

6. **Claim 5** is rejected for the following reasons:

The method recited in claim 4, wherein said associating step comprises annotating the managed code class definition of the user defined type with an attribute that identifies the XML Schema on a server that hosts the database store(*Col 40-49 teaches the DTDID and that this attribute must be specified, hence it is annotated*).

7. **Claim 6** is rejected for the following reasons:

The method recited in claim 1, further comprising at least one of the steps of: querying an instance of the user-defined type persisted within the database store(*Col 44 lines 37-44*); and modifying an instance of the user-defined type persisted within the database store.

8. **Claim 7**, as best understood, is rejected for the following reasons:

A system comprising: a runtime that provides managed code execution (*The system must inherently have a runtime in order to be operational*), the runtime comprising: a class in managed code that represents an XML data type; and a class in managed code that defines a user defined type for storage of objects of that type within a database store, the

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class definition for the user defined type comprising one or more fields,(See Claim 1 rejection) each field having a respective data type (Every field inherently has a data type) and at least one of said fields being defined as an instance of the managed code class that represents the XML data type; and a database store for storing an instance of the user defined type, whereby a field of the persisted instance can contain XML data.(See Claim 1 rejection)

9. **Claim 8** is rejected for the following reasons:

See claim 2 rejection.

10. **Claim 9** is rejected for the following reasons:

See claim 3 rejection.

11. **Claim 10** is rejected for the following reasons:

See Claim 4 rejection.

12. **Claim 11** is rejected for the following reasons:

See Claim 5 rejection.

13. **Claim 12** is rejected for the following reasons:

A computer readable medium having program code stored thereon for use in a system in which an object that is an instance of a user defined type can be persisted in a database

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store, said program code comprising: a first class in managed code that represents an XML data type for a field of a user defined type(*See Claim 1 rejection, First class can be considered the main table Col 111 lines 45-48*); a second class in managed code that defines a user defined type(*See Claim 1 rejection and col 11 lines 49-53, one of the side tables being a second class*), the second class comprising one or more fields and behaviors,(*See claims 1 and 3 rejections*) each field having a respective data type (*Inherent*), at least one of the fields within the second class being defined as an instance of the first class(*Figure 3, all tables contain the field root\_id*), said program code, when executed on a computer, enabling the computer to persist an instance of the user defined type within the database store, wherein said at least one field of the persisted instance contains XML data(*See Claim 1 rejection*).

14. **Claim 13** is rejected for the following reasons:

See claim 2 rejection.

15. **Claim 14** is rejected for the following reasons:

See claim 3 rejection.

16. **Claim 15** is rejected for the following reasons:

See Claim 4 rejection.

17. **Claim 16** is rejected for the following reasons:

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See Claim 5 rejection.

18. **Claim 17** is rejected for the following reasons:

See Claim 6 rejection.

### *Response to Arguments*

All rejections under 35 USC 112 and 101 have been withdrawn in light of applicants amendments.

The rejections under 35 USC 102(e) stand as applicants arguments are not persuasive.

Further, the applicants arguments admit that having an XML data type was well known in the art as described in the applicants specification, however the applicants arguments are incorrect in the fact that they state that “Chau merely describes a technique for storing XML documents in a column of a database table” as Chau clearly has the ability to parse an XML document and store its features in managed SQL tables as can be seen in col 18 and col 19 teaches using an XML data type.

### *Conclusion*

19. The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Murthy et al. US 2004/0220927

Eisenberg et al. “SQL/XML and the SQLX Informal Group of Companies”

Kappel et al. “X-Ray –Towards Integrating XML and Relational Database Systems.”



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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cory C. Bell whose telephone number is (571) 272 2736. The examiner can normally be reached on m-f 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Rones can be reached on (571) 272 4085. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**SAM RIMELL**  
**PRIMARY EXAMINER**